

**REMARKS**

Claims 1 to 75 are pending in this application. In the Office Action,

- (1) claims 1 to 10, 31 to 46, 50 to 55, 58 to 64 and 68 to 75 are withdrawn from consideration;
- (2) claims 11 to 30, 47 to 49, 56 to 57 and 65 to 67 are rejected under 35 U.S.C. § 112, second paragraph;
- (3) claims 44 to 45 are rejected under 35 U.S.C. § 102(e) as anticipated by US-B-6,322,770 (*Rajopadhye* reference); and
- (4) claims 11 to 30, 47 to 49, 56 to 57 and 65 to 67 are rejected under the judicially created doctrine of obviousness-type double patenting as being unpatenable over the composition claims of US-B-6,322,770 (*Rajopadhye* reference).

Applicants are herein cancelling claims 1 to 10, 31 to 46, 50 to 55, 58 to 64 and 68 to 75, without prejudice or disclaimer, and amending claims 11, 47 and 56. Upon entry of this amendment, claims 11 to 30, 47 to 49, 56 to 57 and 65 to 67 will be pending in this application.

Applicants would like to thank the Examiner for the courtesy extended in the three telephonic interviews to discuss the status of the claims in this application. It was agreed on January 16, 2002 by Examiner Bala and the undersigned that applicants would proceed with the understanding that claims 1 to 75 were pending in this application, prior to entry of the present amendment, and that applicants were prosecuting claims 11 to 30, 47 to 49, 56 to 57 and 65 to 67 (as elected in the Response to the Restriction Requirement mailed on May 15, 2002).

**Amendments to the Claims**

Applicants are herein cancelling claims 1 to 10, 31 to 46, 50 to 55, 58 to 64 and 68 to 75, without prejudice or disclaimer.

Applicants are herein amending claims 11, 47 and 56:

- (1) Applicants are herein amending claim 11 to substitute the term “composition” for the term “compound” to provide proper antecedent basis. Support for the amendment may be found in the claim itself.
- (2) Applicant are herein amending dependent claims 47 and 56 to present them as independent claims, incorporating the limitations of the claims from which they depended (now cancelled claims 44 and 19, respectively). Support for the amendment may be found, *inter alia*, in cancelled claims 19 and 42 to 44.

Applicants submit that the amendment to the claims does not introduce new matter and is fully supported by the specification and claims, as originally filed.

**Rejection under 35 U.S.C. § 112, second paragraph**

In the office action, claims 11 to 30, 47 to 49, 56 to 57 and 65 to 67 are rejected under 35 U.S.C. § 112, second paragraph, because claim 11 is allegedly indefinite and because claims 47 to 49 and 56 depend from non-elected claims 44 and 19. Claims 12 to 30, 57 and 65 to 67 are rejected as depending from a rejected claim.

Applicants’ amendments to claims 47 and 56 to eliminate the dependency from non-elected claims render moot the rejection with respect to claims 47 to 49 and 56. Accordingly, applicants request withdrawal of the rejection with respect to claims 47 to 49 and 56.

It is alleged in the Office Action that claim 11 is indefinite because each of the elements is variable and is recited “without any structural limitation.” Applicants respectfully traverse the rejection because the terms are clear and would be readily understood by those skilled in the art. Applicants respectfully submit that, contrary to the assertion in the Office Action, the composition is clearly defined in both structural (metal, indazole nonpeptide, for example) and functional limitations. Applicants further respectfully submit that the structural and functional language employed in claim 11 is precise and definite enough to provide a clear indication of the scope of the subject matter embraced by the claim and the language is not so broad that it causes the claim to have a potential scope of protection beyond that justified by the specification.

Applicants submit that it is well-established that functional limitations may be used in claims and that such limitations are not *per se* indefinite. Functional language does not, in and of itself, render a claim improper or indefinite. *In re Swinehart*, 439 F.2d 210, 169 USPQ 226, 229 (CCPA 1971). Functional language in a claim is proper and definite if the language provides a clear indication of the scope of the subject matter embraced by the claim. *In re Hammack*, 427 F.2d 1378, 166 USPQ 204, 208 (CCPA 1970). A functional limitation, as any other limitation in a claim, is evaluated for what such limitation reasonably conveys to a person of ordinary skill in the art. As stated by the Board:

In rejecting a claim under the second paragraph of 35 USC 112, *it is incumbent on the examiner to establish* that one of ordinary skill in the pertinent art, when reading the claims in light of the supporting specification, would not have been able to ascertain with a reasonable degree of precision and particularity the particular area set out and circumscribed by the claims.

*Ex parte Wu*, 10 USPQ.2d 2031, 2033 (B.P.A.I. 1989) (emphasis added) (citing *In re Moore*, 439 F.2d 1232, 169 USPQ 236 (C.C.P.A. 1971); *In re Hammack*, 427 F.2d 1378, 166 U.S.P.Q. 204 (C.C.P.A. 1970).

Applicants submit that claim 11 is directed to a composition that includes both structural (*i.e.*, what it is) and functional (*i.e.*, what it does) limitations:

- (a) a metal (structural);
- (b) a chelator capable of chelating the metal (functional);
- (c) a targeting moiety, wherein the targeting moiety is bound to the chelator, is an indazole nonpeptide and binds to a receptor that is upregulated during angiogenesis (structural and functional); and
- (d) an optional linking group between the targeting moiety and chelator (functional).

A claim is judged with respect to indefiniteness from the vantage point of one of ordinary skill in the art, when the claim is read in light of the specification. *North Am. Vaccine, Inc. v. American Cyanamid Co.*, 28 USPQ.2d 1333, 1339 (Fed. Cir. 1993); *Orthokinetics, Inc., v. Safety Travel Chairs, Inc.*, 806 F.2d 1565, 1576, 1 USPQ.2d 1081,

1088 (Fed. Cir. 1986). Applicants respectfully submit that one of ordinary skill in the art to which the claimed invention relates would readily understand the metes and bounds of claim 11, particularly in view of the description provided in the specification. For example,

- (a) The term “metal” is described in numerous passages throughout the specification and examples and the term’s scope would be readily apparent to those skilled in the art.
- (b) The phrase “chelator capable of chelating the metal” is described, *inter alia*, in the specification on page 104, lines 30 to 32; page 117, lines 7 to page 118, line 33; page 122, line 30 to page 123, line 26.
- (c) The phrase “targeting moiety, wherein the targeting moiety is bound to the chelator, is an indazole nonpeptide and binds to a receptor that is upregulated during angiogenesis” is described in the specification, *inter alia*, on page 95, lines 19 to 22 and page 109, line 13 to page 110, line 31.
- (d) The optional linking group between the targeting moiety and chelator is described in the specification, *inter alia*, on page 114, line 24 through page 117, line 6.

It is respectfully submitted that the Office Action fails to provide any reasoning why the limitations in claim 11 are indefinite, other than the incorrect assertion that they are recited without any structural information. Applicants respectfully submit that this is an improper standard to apply for judging indefiniteness. Furthermore, there is a clear indication of the scope of the subject matter embraced by claim 11 and its language is not so broad that it causes the claim to have a potential scope of protection beyond that justified by the specification.

Applicants respectfully submit that the claims, as amended, are not indefinite and particularly point out and distinctly claim the subject matter that applicants regard as the invention. Thus, applicants respectfully request withdrawal of the rejection of claims 11 to 30, 47 to 49, 56 to 57 and 65 to 67 under 35 U.S.C. § 112, second paragraph.

**Rejection under 35 U.S.C. § 102(e)**

Claims 44 to 45 are rejected under 35 U.S.C. § 102(e) as anticipated by US-B-6,322,770 (*Rajopadhye* reference). Claims 44 to 45 are non-elected claims and applicants are herein cancelling them without prejudice or disclaimer. Accordingly, applicants request withdrawal of the rejection of claims 44 to 45 under 35 U.S.C. § 102(e).

**Obviousness-type Double Patenting Rejection**

Claims 11 to 30, 47 to 49, 56 to 57 and 65 to 67 are rejected under the judicially created doctrine of obviousness-type double patenting as being unpatenable over the composition claims of US-B-6,322,770 (*Rajopadhye* reference). Applicants are herewith filing a terminal disclaimer with respect to US-B-6,322,770, rendering moot the rejection. Accordingly, applicants request withdrawal of the rejection.

**Conclusions**

Applicants request:

- (1) entry of the amendment; and
- (2) reconsideration and withdrawal of the rejection of the claims; and
- (3) allowance of claims 11 to 30, 47 to 49, 56 to 57 and 65 to 67.

If the Examiner is of a contrary view, the Examiner is requested to contact the undersigned attorney at (215) 557-3861.

Attached hereto is a marked-up version of the changes made to the specification and the claims by the current amendment. The attached page is captioned "VERSION WITH MARKINGS TO SHOW CHANGES MADE."

Respectfully submitted,

A handwritten signature in cursive script that reads "Wendy A. Choi".

Wendy A. Choi  
Registration No. 36,697

Date: January 21, 2003  
WOODCOCK WASHBURN LLP  
One Liberty Place - 46th Floor  
Philadelphia, PA 19103  
Telephone : (215) 568-3100  
Facsimile : (215) 568-3439

**VERSION WITH MARKINGS TO SHOW CHANGES MADE****In the claims:**

Please cancel claims 1 to 10, 31 to 46, 50 to 55, 58 to 64 and 68 to 75, without prejudice or disclaimer.

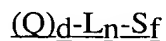
Please rewrite claims 11, 47, and 56, as follows:

11.(amended) A diagnostic or therapeutic metallopharmaceutical composition, comprising: a metal, a chelator capable of chelating the metal and a targeting moiety, wherein the targeting moiety is bound to the chelator, is an indazole nonpeptide and binds to a receptor that is upregulated during angiogenesis and the **[compound]** **composition** has 0-1 linking groups between the targeting moiety and chelator.

47. (amended) An ultrasound contrast agent composition, comprising:

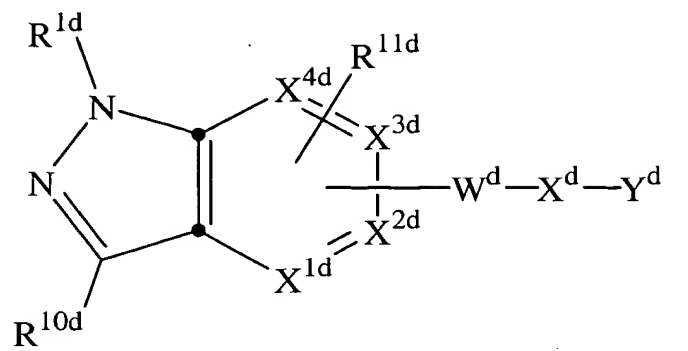
- (a) a compound **[of Claim 44,]** comprising: an indazole that binds to the integrin  $\alpha_v\beta_3$  or  $\alpha_v\beta_5$ , a surfactant and a linking group between the indazole and the surfactant;
- (b) a parenterally acceptable carrier; and,
- (c) an echogenic gas,

wherein said compound is of the formula:

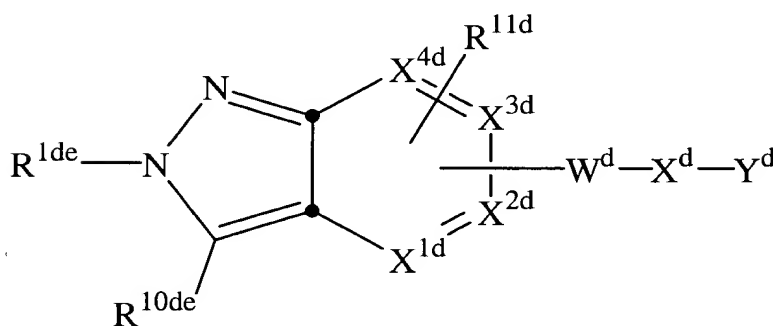


wherein Q is independently a compound of Formulae (Ia) or (Ib):

21



(Ia)



(Ib)

including stereoisomeric forms thereof, or mixtures of stereoisomeric forms thereof, or pharmaceutically acceptable salt or prodrug forms thereof wherein:

$X^{1d}$  is N, CH, C-  $W^d$ -  $X^d$ -  $Y^d$ , or C- $L_n$ ;

$X^{2d}$  is N, CH, or C-  $W^d$ -  $X^d$ -  $Y^d$ ;

$X^{3d}$  is N,  $CR^{11d}$ , or C-  $W^d$ -  $X^d$ -  $Y^d$ ;

$X^{4d}$  is N or  $CR^{11d}$ ;

$R^{1d}$  is selected from:  $R^{1de}$ , C<sub>1</sub>-C<sub>6</sub> alkyl substituted with 0-1  $R^{15d}$  or 0-1  $R^{21d}$ , C<sub>3</sub>-C<sub>6</sub> alkenyl substituted with 0-1  $R^{15d}$  or 0-1  $R^{21d}$ , C<sub>3</sub>-C<sub>7</sub> cycloalkyl substituted with 0-1  $R^{15d}$  or 0-1  $R^{21d}$ , C<sub>4</sub>-C<sub>11</sub> cycloalkylalkyl substituted with 0-1  $R^{15d}$  or 0-1  $R^{21d}$ , aryl substituted with 0-1  $R^{15d}$  or 0-2  $R^{11d}$  or 0-1  $R^{21d}$ , and aryl(C<sub>1</sub>-C<sub>6</sub> alkyl)- substituted with 0-1  $R^{15d}$  or 0-2  $R^{11d}$  or 0-1  $R^{21d}$ ;





A<sup>d</sup> and B<sup>d</sup> are independently -CH<sub>2</sub>-, -O-, -N(R<sup>2d</sup>)-, or -C(=O)-;

A<sup>1d</sup> and B<sup>1d</sup> are independently -CH<sub>2</sub>- or -N(R<sup>3d</sup>)-;

D<sup>d</sup> is -N(R<sup>2d</sup>)-, -O-, -S-, -C(=O)- or -SO<sub>2</sub>-;

E<sup>d</sup>-F<sup>d</sup> is -C(R<sup>4d</sup>)=C(R<sup>5d</sup>)-, -N=C(R<sup>4d</sup>)-, -C(R<sup>4d</sup>)=N-, or -C(R<sup>4d</sup>)<sub>2</sub>C(R<sup>5d</sup>)<sub>2</sub>-;

J<sup>d</sup>, K<sup>d</sup>, L<sup>d</sup> and M<sup>d</sup> are independently selected from:

-C(R<sup>4d</sup>)-, -C(R<sup>5d</sup>)- and -N-, provided that at least one of J<sup>d</sup>, K<sup>d</sup>, L<sup>d</sup> and M<sup>d</sup> is not -N-;

provided that when R<sup>1d</sup> is R<sup>1de</sup> then one of X<sup>1d</sup> and X<sup>2d</sup> is C- W<sup>d</sup>- X<sup>d</sup>- Y<sup>d</sup>, and when R<sup>10d</sup> is R<sup>1de</sup> then X<sup>3d</sup> is C- W<sup>d</sup>- X<sup>d</sup>- Y<sup>d</sup>;

R<sup>2d</sup> is selected from: H, C<sub>1</sub>-C<sub>6</sub> alkyl, (C<sub>1</sub>-C<sub>6</sub> alkyl)carbonyl, (C<sub>1</sub>-C<sub>6</sub> alkoxy)carbonyl; (C<sub>1</sub>-C<sub>6</sub> alkyl)aminocarbonyl, C<sub>3</sub>-C<sub>6</sub> alkenyl, C<sub>3</sub>-C<sub>7</sub> cycloalkyl, C<sub>4</sub>-C<sub>11</sub> cycloalkylalkyl, aryl, heteroaryl(C<sub>1</sub>-C<sub>6</sub> alkyl)carbonyl, heteroarylcarbonyl, aryl(C<sub>1</sub>-C<sub>6</sub> alkyl)-, (C<sub>1</sub>-C<sub>6</sub> alkyl)carbonyl-, arylcarbonyl, C<sub>1</sub>-C<sub>6</sub> alkylsulfonyl, arylsulfonyl, aryl(C<sub>1</sub>-C<sub>6</sub> alkyl)sulfonyl, heteroarylsulfonyl, heteroaryl(C<sub>1</sub>-C<sub>6</sub> alkyl)sulfonyl, aryloxy carbonyl, and aryl(C<sub>1</sub>-C<sub>6</sub> alkoxy)carbonyl, wherein said aryl groups are substituted with 0-2 substituents selected from the group consisting of C<sub>1</sub>-C<sub>4</sub> alkyl, C<sub>1</sub>-C<sub>4</sub> alkoxy, halo, CF<sub>3</sub>, and nitro;

R<sup>3d</sup> is selected from: H, C<sub>1</sub>-C<sub>6</sub> alkyl, C<sub>3</sub>-C<sub>7</sub> cycloalkyl, C<sub>4</sub>-C<sub>11</sub> cycloalkylalkyl, aryl, aryl(C<sub>1</sub>-C<sub>6</sub> alkyl)-, and heteroaryl(C<sub>1</sub>-C<sub>6</sub> alkyl)-;

R<sup>4d</sup> and R<sup>5d</sup> are independently selected from: H, C<sub>1</sub>-C<sub>4</sub> alkoxy, NR<sup>2d</sup>R<sup>3d</sup>, halogen, NO<sub>2</sub>, CN, CF<sub>3</sub>, C<sub>1</sub>-C<sub>6</sub> alkyl, C<sub>3</sub>-C<sub>6</sub> alkenyl, C<sub>3</sub>-C<sub>7</sub> cycloalkyl, C<sub>4</sub>-C<sub>11</sub> cycloalkylalkyl, aryl, aryl(C<sub>1</sub>-C<sub>6</sub> alkyl)-, (C<sub>1</sub>-C<sub>6</sub> alkyl)carbonyl, (C<sub>1</sub>-C<sub>6</sub> alkoxy)carbonyl, arylcarbonyl, or

alternatively, when substituents on adjacent atoms, R<sup>4d</sup> and R<sup>5d</sup> can be taken together with the carbon atoms to which they are attached to form a 5-7 membered carbocyclic or 5-7 membered heterocyclic aromatic or non-aromatic ring system, said carbocyclic or heterocyclic ring being optionally substituted with 0-2 groups selected from: C<sub>1</sub>-C<sub>4</sub> alkyl, C<sub>1</sub>-C<sub>4</sub> alkoxy, halo, cyano, amino, CF<sub>3</sub>, and NO<sub>2</sub>;

U<sup>d</sup> is selected from:

-(CH<sub>2</sub>)<sub>n</sub><sup>d</sup>-,  
-(CH<sub>2</sub>)<sub>n</sub><sup>d</sup>(CR<sup>7d</sup>=CR<sup>8d</sup>)(CH<sub>2</sub>)<sub>m</sub><sup>d</sup>-,  
-(CH<sub>2</sub>)<sub>n</sub><sup>d</sup>(C≡C)(CH<sub>2</sub>)<sub>m</sub><sup>d</sup>-,  
-(CH<sub>2</sub>)<sub>n</sub><sup>d</sup>J<sup>d</sup>(CH<sub>2</sub>)<sub>m</sub><sup>d</sup>-,  
-(CH<sub>2</sub>)<sub>n</sub><sup>d</sup>O(CH<sub>2</sub>)<sub>m</sub><sup>d</sup>-,  
-(CH<sub>2</sub>)<sub>n</sub><sup>d</sup>N(R<sup>6d</sup>)(CH<sub>2</sub>)<sub>m</sub><sup>d</sup>-,  
-(CH<sub>2</sub>)<sub>n</sub><sup>d</sup>C(=O)(CH<sub>2</sub>)<sub>m</sub><sup>d</sup>-,  
-(CH<sub>2</sub>)<sub>n</sub><sup>d</sup>(C=O)N(R<sup>6d</sup>)(CH<sub>2</sub>)<sub>m</sub><sup>d</sup>-,  
-(CH<sub>2</sub>)<sub>n</sub><sup>d</sup>N(R<sup>6d</sup>)(C=O)(CH<sub>2</sub>)<sub>m</sub><sup>d</sup>-, and  
-(CH<sub>2</sub>)<sub>n</sub><sup>d</sup>S(O)<sub>p</sub><sup>d</sup>(CH<sub>2</sub>)<sub>m</sub><sup>d</sup>-,

wherein one or more of the methylene groups in U<sup>d</sup> is optionally substituted with R<sup>7d</sup>;

J<sup>d</sup> is selected from 1,2-cycloalkylene, 1,2-phenylene, 1,3-phenylene, 1,4-phenylene, 2,3-pyridinylene, 3,4-pyridinylene, 2,4-pyridinylene, and 3,4-pyridazinylene;

R<sup>6d</sup> is selected from: H, C<sub>1</sub>-C<sub>4</sub> alkyl, or benzyl;

R<sup>7d</sup> and R<sup>8d</sup> are independently selected from: H, C<sub>1</sub>-C<sub>6</sub> alkyl, C<sub>3</sub>-C<sub>7</sub> cycloalkyl, C<sub>4</sub>-C<sub>11</sub> cycloalkylalkyl, aryl, aryl(C<sub>1</sub>-C<sub>6</sub> alkyl)-, and heteroaryl(C<sub>0</sub>-C<sub>6</sub> alkyl)-;

R<sup>10d</sup> is selected from: H, R<sup>1de</sup>, C<sub>1</sub>-C<sub>4</sub> alkoxy substituted with 0-1 R<sup>21d</sup>, N(R<sup>6d</sup>)<sub>2</sub>, halogen, NO<sub>2</sub>, CN, CF<sub>3</sub>, CO<sub>2</sub>R<sup>17d</sup>, C(=O)R<sup>17d</sup>, CONR<sup>17d</sup>R<sup>20d</sup>, -SO<sub>2</sub>R<sup>17d</sup>, -SO<sub>2</sub>NR<sup>17d</sup>R<sup>20d</sup>, C<sub>1</sub>-C<sub>6</sub> alkyl substituted with 0-1 R<sup>15d</sup> or 0-1 R<sup>21d</sup>, C<sub>3</sub>-C<sub>6</sub> alkenyl substituted with 0-1 R<sup>15d</sup> or 0-1 R<sup>21d</sup>, C<sub>3</sub>-C<sub>7</sub> cycloalkyl substituted with 0-1 R<sup>15d</sup> or 0-1 R<sup>21d</sup>, C<sub>4</sub>-C<sub>11</sub> cycloalkylalkyl substituted with 0-1 R<sup>15d</sup> or 0-1

R<sup>21d</sup>, aryl substituted with 0-1 R<sup>15d</sup> or 0-2 R<sup>11d</sup> or 0-1 R<sup>21d</sup>, and aryl(C<sub>1</sub>-C<sub>6</sub> alkyl)- substituted with 0-1 R<sup>15d</sup> or 0-2 R<sup>11d</sup> or 0-1 R<sup>21d</sup>.

R<sup>10de</sup> is selected from: H, C<sub>1</sub>-C<sub>4</sub> alkoxy substituted with 0-1 R<sup>21d</sup>, N(R<sup>6d</sup>)<sub>2</sub>, halogen, NO<sub>2</sub>, CN, CF<sub>3</sub>, CO<sub>2</sub>R<sup>17d</sup>, C(=O)R<sup>17d</sup>, CONR<sup>17d</sup>R<sup>20d</sup>, -SO<sub>2</sub>R<sup>17d</sup>, -SO<sub>2</sub>NR<sup>17d</sup>R<sup>20d</sup>, C<sub>1</sub>-C<sub>6</sub> alkyl substituted with 0-1 R<sup>15d</sup> or 0-1 R<sup>21d</sup>, C<sub>3</sub>-C<sub>6</sub> alkenyl substituted with 0-1 R<sup>15d</sup> or 0-1 R<sup>21d</sup>, C<sub>3</sub>-C<sub>7</sub> cycloalkyl substituted with 0-1 R<sup>15d</sup> or 0-1 R<sup>21d</sup>, C<sub>4</sub>-C<sub>11</sub> cycloalkylalkyl substituted with 0-1 R<sup>15d</sup> or 0-1 R<sup>21d</sup>, aryl substituted with 0-1 R<sup>15d</sup> or 0-2 R<sup>11d</sup> or 0-1 R<sup>21d</sup>, and aryl(C<sub>1</sub>-C<sub>6</sub> alkyl)- substituted with 0-1 R<sup>15d</sup> or 0-2 R<sup>11d</sup> or 0-1 R<sup>21d</sup>.

R<sup>11d</sup> is selected from H, halogen, CF<sub>3</sub>, CN, NO<sub>2</sub>, hydroxy, NR<sup>2d</sup>R<sup>3d</sup>, C<sub>1</sub>-C<sub>4</sub> alkyl substituted with 0-1 R<sup>21d</sup>, C<sub>1</sub>-C<sub>4</sub> alkoxy substituted with 0-1 R<sup>21d</sup>, aryl substituted with 0-1 R<sup>21d</sup>, aryl(C<sub>1</sub>-C<sub>6</sub> alkyl)- substituted with 0-1 R<sup>21d</sup>, (C<sub>1</sub>-C<sub>4</sub> alkoxy)carbonyl substituted with 0-1 R<sup>21d</sup>, (C<sub>1</sub>-C<sub>4</sub> alkyl)carbonyl substituted with 0-1 R<sup>21d</sup>, C<sub>1</sub>-C<sub>4</sub> alkylsulfonyl substituted with 0-1 R<sup>21d</sup>, and C<sub>1</sub>-C<sub>4</sub> alkylaminosulfonyl substituted with 0-1 R<sup>21d</sup>.

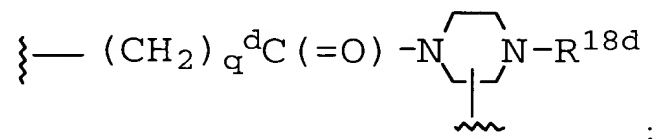
W<sup>d</sup> is selected from:

-(C(R<sup>12d</sup>)<sub>2</sub>)<sub>q</sub><sup>d</sup>C(=O)N(R<sup>13d</sup>)-, and

-C(=O)-N(R<sup>13d</sup>)-(C(R<sup>12d</sup>)<sub>2</sub>)<sub>q</sub><sup>d</sup>-;

X<sup>d</sup> is -C(R<sup>12d</sup>)(R<sup>14d</sup>)-C(R<sup>12d</sup>)(R<sup>15d</sup>)-; or

alternatively, W<sup>d</sup> and X<sup>d</sup> can be taken together to be



R<sup>12d</sup> is selected from H, halogen, C<sub>1</sub>-C<sub>6</sub> alkyl, C<sub>2</sub>-C<sub>6</sub> alkenyl, C<sub>2</sub>-C<sub>6</sub> alkynyl, C<sub>3</sub>-C<sub>7</sub> cycloalkyl, C<sub>4</sub>-C<sub>10</sub> cycloalkylalkyl, (C<sub>1</sub>-C<sub>4</sub> alkyl)carbonyl, aryl, and aryl(C<sub>1</sub>-C<sub>6</sub> alkyl)-;

R<sup>13d</sup> is selected from H, C<sub>1</sub>-C<sub>6</sub> alkyl, C<sub>3</sub>-C<sub>7</sub> cycloalkylmethyl, and aryl(C<sub>1</sub>-C<sub>6</sub> alkyl)-;

R<sup>14d</sup> is selected from:

H, C<sub>1</sub>-C<sub>6</sub> alkylthio(C<sub>1</sub>-C<sub>6</sub> alkyl)-, aryl(C<sub>1</sub>-C<sub>10</sub> alkylthioalkyl)-, aryl(C<sub>1</sub>-C<sub>10</sub> alkoxyalkyl)-, C<sub>1</sub>-C<sub>10</sub> alkyl, C<sub>1</sub>-C<sub>10</sub> alkoxyalkyl, C<sub>1</sub>-C<sub>6</sub> hydroxyalkyl, C<sub>2</sub>-C<sub>10</sub> alkenyl, C<sub>2</sub>-C<sub>10</sub> alkynyl, C<sub>3</sub>-C<sub>10</sub> cycloalkyl, C<sub>3</sub>-C<sub>10</sub> cycloalkylalkyl, aryl(C<sub>1</sub>-C<sub>6</sub> alkyl)-, heteroaryl(C<sub>1</sub>-C<sub>6</sub> alkyl)-, aryl, heteroaryl, CO<sub>2</sub>R<sup>17d</sup>, C(=O)R<sup>17d</sup>, and CONR<sup>17d</sup>R<sup>20d</sup>, provided that any of the above alkyl, cycloalkyl, aryl or heteroaryl groups may be unsubstituted or substituted independently with 0-1 R<sup>16d</sup> or 0-2 R<sup>11d</sup>;

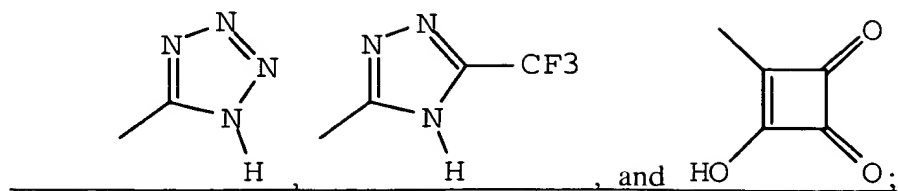
R<sup>15d</sup> is selected from:

H, R<sup>16d</sup>, C<sub>1</sub>-C<sub>10</sub> alkyl, C<sub>1</sub>-C<sub>10</sub> alkoxyalkyl, C<sub>1</sub>-C<sub>10</sub> alkylaminoalkyl, di(C<sub>1</sub>-C<sub>10</sub> alkyl)aminoalkyl, (C<sub>1</sub>-C<sub>10</sub> alkyl)carbonyl, aryl(C<sub>1</sub>-C<sub>6</sub> alkyl)carbonyl, C<sub>2</sub>-C<sub>10</sub> alkenyl, C<sub>2</sub>-C<sub>10</sub> alkynyl, C<sub>3</sub>-C<sub>10</sub> cycloalkyl, C<sub>3</sub>-C<sub>10</sub> cycloalkylalkyl, aryl(C<sub>1</sub>-C<sub>6</sub> alkyl)-, heteroaryl(C<sub>1</sub>-C<sub>6</sub> alkyl)-, aryl, heteroaryl, CO<sub>2</sub>R<sup>17d</sup>, C(=O)R<sup>17d</sup>, CONR<sup>17d</sup>R<sup>20d</sup>, SO<sub>2</sub>R<sup>17d</sup>, and SO<sub>2</sub>NR<sup>17d</sup>R<sup>20d</sup>, provided that any of the above alkyl, cycloalkyl, aryl or heteroaryl groups may be unsubstituted or substituted independently with 0-2 R<sup>11d</sup>;

Y<sup>d</sup> is selected from:

-COR<sup>19d</sup>, -SO<sub>3</sub>H, -PO<sub>3</sub>H, tetrazolyl, -CONHNHSO<sub>2</sub>CF<sub>3</sub>, -CONHSO<sub>2</sub>R<sup>17d</sup>, -CONHSO<sub>2</sub>NHR<sup>17d</sup>, -NHCOCF<sub>3</sub>, -NHCONHSO<sub>2</sub>R<sup>17d</sup>, -NHSO<sub>2</sub>R<sup>17d</sup>, -OPO<sub>3</sub>H<sub>2</sub>, -OSO<sub>3</sub>H, -PO<sub>3</sub>H<sub>2</sub>, -SO<sub>3</sub>H, -SO<sub>2</sub>NHCOR<sup>17d</sup>, -SO<sub>2</sub>NHCO<sub>2</sub>R<sup>17d</sup>,

27



R<sup>16d</sup> is selected from:

-N(R<sup>20d</sup>)-C(=O)-O-R<sup>17d</sup>,  
-N(R<sup>20d</sup>)-C(=O)-R<sup>17d</sup>,  
-N(R<sup>20d</sup>)-C(=O)-NH-R<sup>17d</sup>,  
-N(R<sup>20d</sup>)SO<sub>2</sub>-R<sup>17d</sup>, and  
-N(R<sup>20d</sup>)SO<sub>2</sub>-NR<sup>20d</sup>R<sup>17d</sup>;

R<sup>17d</sup> is selected from:

C<sub>1</sub>-C<sub>10</sub> alkyl optionally substituted with a bond to L<sub>n</sub>, C<sub>3</sub>-C<sub>11</sub> cycloalkyl  
optionally substituted with a bond to L<sub>n</sub>, aryl(C<sub>1</sub>-C<sub>6</sub> alkyl)- optionally substituted  
with a bond to L<sub>n</sub>, (C<sub>1</sub>-C<sub>6</sub> alkyl)aryl optionally substituted with a bond to L<sub>n</sub>,  
heteroaryl(C<sub>1</sub>-C<sub>6</sub> alkyl)- optionally substituted with a bond to L<sub>n</sub>, (C<sub>1</sub>-C<sub>6</sub>  
alkyl)heteroaryl optionally substituted with a bond to L<sub>n</sub>, biaryl(C<sub>1</sub>-C<sub>6</sub> alkyl)-  
optionally substituted with a bond to L<sub>n</sub>, heteroaryl optionally substituted with a bond  
to L<sub>n</sub>, aryl optionally substituted with a bond to L<sub>n</sub>, biaryl optionally substituted with  
a bond to L<sub>n</sub>, and a bond to L<sub>n</sub>, wherein said aryl, biaryl or heteroaryl groups are also  
optionally substituted with 0-3 substituents selected from the group: C<sub>1</sub>-C<sub>4</sub> alkyl, C<sub>1</sub>-  
C<sub>4</sub> alkoxy, aryl, heteroaryl, halo, cyano, amino, CF<sub>3</sub>, and NO<sub>2</sub>;

R<sup>18d</sup> is selected from:

-H,  
-C(=O)-O-R<sup>17d</sup>,  
-C(=O)-R<sup>17d</sup>,  
-C(=O)-NH-R<sup>17d</sup>,  
-SO<sub>2</sub>-R<sup>17d</sup>, and

-SO<sub>2</sub>-NR<sup>20d</sup>R<sup>17d</sup>;

R<sup>19d</sup> is selected from: hydroxy, C<sub>1</sub>-C<sub>10</sub> alkyloxy, C<sub>3</sub>-C<sub>11</sub> cycloalkyloxy, aryloxy, aryl(C<sub>1</sub>-C<sub>6</sub> alkoxy)-, C<sub>3</sub>-C<sub>10</sub> alkylcarbonyloxyalkyloxy, C<sub>3</sub>-C<sub>10</sub> alkoxy carbonyloxyalkyloxy, C<sub>2</sub>-C<sub>10</sub> alkoxy carbonylalkyloxy, C<sub>5</sub>-C<sub>10</sub> cycloalkylcarbonyloxyalkyloxy, C<sub>5</sub>-C<sub>10</sub> cycloalkoxy carbonyloxyalkyloxy, C<sub>5</sub>-C<sub>10</sub> cycloalkoxy carbonylalkyloxy, C<sub>7</sub>-C<sub>11</sub> aryloxy carbonylalkyloxy, C<sub>8</sub>-C<sub>12</sub> aryloxy carbonyloxyalkyloxy, C<sub>8</sub>-C<sub>12</sub> arylcarbonyloxyalkyloxy, C<sub>5</sub>-C<sub>10</sub> alkoxyalkylcarbonyloxyalkyloxy, C<sub>5</sub>-C<sub>10</sub> (5-alkyl-1,3-dioxo-cyclopenten-2-one-yl)methyloxy, C<sub>10</sub>-C<sub>14</sub> (5-aryl-1,3-dioxo-cyclopenten-2-one-yl)methyloxy, and

(R<sup>11d</sup>)(R<sup>12d</sup>)N-(C<sub>1</sub>-C<sub>10</sub> alkoxy)-;

R<sup>20d</sup> is selected from: H, C<sub>1</sub>-C<sub>6</sub> alkyl, C<sub>3</sub>-C<sub>7</sub> cycloalkyl, C<sub>4</sub>-C<sub>11</sub> cycloalkylalkyl, aryl, aryl(C<sub>1</sub>-C<sub>6</sub> alkyl)-, and heteroaryl(C<sub>1</sub>-C<sub>6</sub> alkyl)-;

R<sup>21d</sup> is selected from: COOH and NR<sup>6d</sup><sub>2</sub>;

m<sup>d</sup> is 0-4;

n<sup>d</sup> is 0-4;

t<sup>d</sup> is 0-4;

p<sup>d</sup> is 0-2;

q<sup>d</sup> is 0-2; and

r<sup>d</sup> is 0-2;

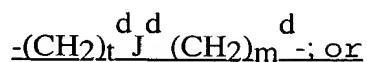
with the following provisos:

(1) t<sup>d</sup>, n<sup>d</sup>, m<sup>d</sup> and q<sup>d</sup> are chosen such that the number of atoms connecting

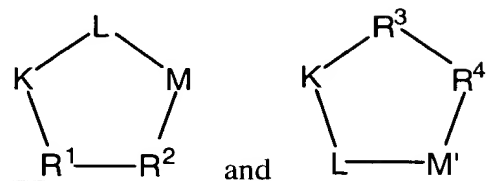
R<sup>1d</sup> and Y<sup>d</sup> is in the range of 10-14; and

(2) n<sup>d</sup> and m<sup>d</sup> are chosen such that the value of n<sup>d</sup> plus m<sup>d</sup> is greater than

one unless U<sup>d</sup> is



Q is a peptide selected from the group:



R<sup>1</sup> is L-valine, D-valine or L-lysine optionally substituted on the ε amino group with a bond to L<sub>n</sub>;

R<sup>2</sup> is L-phenylalanine, D-phenylalanine, D-1-naphthylalanine, 2-aminothiazole-4-acetic acid or tyrosine, the tyrosine optionally substituted on the hydroxy group with a bond to L<sub>n</sub>;

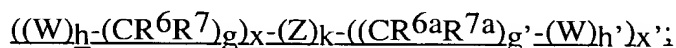
R<sup>3</sup> is D-valine;

R<sup>4</sup> is D-tyrosine substituted on the hydroxy group with a bond to L<sub>n</sub>;

provided that one of R<sup>1</sup> and R<sup>2</sup> in each Q is substituted with a bond to L<sub>n</sub>, and further provided that when R<sup>2</sup> is 2-aminothiazole-4-acetic acid, K is N-methylarginine;

d is selected from 1, 2, 3, 4, 5, 6, 7, 8, 9, and 10;

L<sub>n</sub> is a linking group having the formula:



W is independently selected at each occurrence from the group: O, S, NH, NHC(=O), C(=O)NH, NR<sup>8</sup>C(=O), C(=O)NR<sup>8</sup>, C(=O), C(=O)O, OC(=O), NHC(=S)NH, NHC(=O)NH, SO<sub>2</sub>, SO<sub>2</sub>NH, (OCH<sub>2</sub>CH<sub>2</sub>)<sub>20-200</sub>, (CH<sub>2</sub>CH<sub>2</sub>O)<sub>20-200</sub>, (OCH<sub>2</sub>CH<sub>2</sub>CH<sub>2</sub>)<sub>20-200</sub>, (CH<sub>2</sub>CH<sub>2</sub>CH<sub>2</sub>O)<sub>20-200</sub>, and (aa)<sub>t</sub>;

aa is independently at each occurrence an amino acid;

Z is selected from the group: aryl substituted with 0-3 R<sup>10</sup>, C<sub>3-10</sub> cycloalkyl substituted with 0-3 R<sup>10</sup>, and a 5-10 membered heterocyclic ring system containing 1-4 heteroatoms independently selected from N, S, and O and substituted with 0-3 R<sup>10</sup>;



R<sup>6</sup>, R<sup>6a</sup>, R<sup>7</sup>, R<sup>7a</sup>, and R<sup>8</sup> are independently selected at each occurrence from the group: H, =O, COOH, SO<sub>3</sub>H, PO<sub>3</sub>H, C<sub>1</sub>-C<sub>5</sub> alkyl substituted with 0-3 R<sup>10</sup>, aryl substituted with 0-3 R<sup>10</sup>, benzyl substituted with 0-3 R<sup>10</sup>, and C<sub>1</sub>-C<sub>5</sub> alkoxy substituted with 0-3 R<sup>10</sup>, NHC(=O)R<sup>11</sup>, C(=O)NHR<sup>11</sup>, NHC(=O)NHR<sup>11</sup>, NHR<sup>11</sup>, R<sup>11</sup>, and a bond to S<sub>f</sub>;

R<sup>10</sup> is independently selected at each occurrence from the group: a bond to S<sub>f</sub>, COOR<sup>11</sup>, C(=O)NHR<sup>11</sup>, NHC(=O)R<sup>11</sup>, OH, NHR<sup>11</sup>, SO<sub>3</sub>H, PO<sub>3</sub>H, -OPO<sub>3</sub>H<sub>2</sub>, -OSO<sub>3</sub>H, aryl substituted with 0-3 R<sup>11</sup>, C<sub>1</sub>-5 alkyl substituted with 0-1 R<sup>12</sup>, C<sub>1</sub>-5 alkoxy substituted with 0-1 R<sup>12</sup>, and a 5-10 membered heterocyclic ring system containing 1-4 heteroatoms independently selected from N, S, and O and substituted with 0-3 R<sup>11</sup>;

R<sup>11</sup> is independently selected at each occurrence from the group: H, alkyl substituted with 0-1 R<sup>12</sup>, aryl substituted with 0-1 R<sup>12</sup>, a 5-10 membered heterocyclic ring system containing 1-4 heteroatoms independently selected from N, S, and O and substituted with 0-1 R<sup>12</sup>, C<sub>3</sub>-10 cycloalkyl substituted with 0-1 R<sup>12</sup>, and a bond to S<sub>f</sub>;

R<sup>12</sup> is a bond to S<sub>f</sub>;

k is selected from 0, 1, and 2;

h is selected from 0, 1, and 2;

h' is selected from 0, 1, and 2;

g is selected from 0, 1, 2, 3, 4, 5, 6, 7, 8, 9, and 10;

g' is selected from 0, 1, 2, 3, 4, 5, 6, 7, 8, 9, and 10;

t' is selected from 0, 1, 2, 3, 4, 5, 6, 7, 8, 9, and 10;

x is selected from 0, 1, 2, 3, 4, and 5;

x' is selected from 0, 1, 2, 3, 4, and 5;

S<sub>f</sub> is a surfactant which is a lipid or a compound of the

formula:  $A^9-E^1-A^{10}$ ;

A<sup>9</sup> is selected from the group: OH and OR<sup>27</sup>;

A<sup>10</sup> is OR<sup>27</sup>;

R<sup>27</sup> is C(=O)C<sub>1-20</sub> alkyl;

E<sup>1</sup> is C<sub>1-10</sub> alkylene substituted with 1-3 R<sup>28</sup>;

R<sup>28</sup> is independently selected at each occurrence from the group: R<sup>30</sup>, -PO<sub>3</sub>H-R<sup>30</sup>, =O, -CO<sub>2</sub>R<sup>29</sup>, -C(=O)R<sup>29</sup>, -C(=O)N(R<sup>29</sup>)<sub>2</sub>, -CH<sub>2</sub>OR<sup>29</sup>, -OR<sup>29</sup>, -N(R<sup>29</sup>)<sub>2</sub>, C<sub>1</sub>-C<sub>5</sub> alkyl, and C<sub>2</sub>-C<sub>4</sub> alkenyl;

R<sup>29</sup> is independently selected at each occurrence from the group: R<sup>30</sup>, H, C<sub>1</sub>-C<sub>6</sub> alkyl, phenyl, benzyl, and trifluoromethyl;

R<sup>30</sup> is a bond to L<sub>n</sub>;

or a pharmaceutically acceptable salt thereof.

56. (amended) A therapeutic radiopharmaceutical composition, comprising:
- (a) a therapeutic radiopharmaceutical [of Claim 19] comprising: a metal, a chelator capable of chelating the metal, a targeting moiety, and a linking group between the targeting moiety and chelator;
 

wherein the targeting moiety is bound to the chelator, is an indazole nonpeptide and binds to a receptor that is upregulated during angiogenesis;

wherein the metal is a radioisotope selected from the group: <sup>33</sup>P, <sup>125</sup>I, <sup>186</sup>Re, <sup>188</sup>Re, <sup>153</sup>Sm, <sup>166</sup>Ho, <sup>177</sup>Lu, <sup>149</sup>Pm, <sup>90</sup>Y, <sup>212</sup>Bi, <sup>103</sup>Pd, <sup>109</sup>Pd, <sup>159</sup>Gd, <sup>140</sup>La, <sup>198</sup>Au, <sup>199</sup>Au, <sup>169</sup>Yb, <sup>175</sup>Yb, <sup>165</sup>Dy, <sup>166</sup>Dy, <sup>67</sup>Cu, <sup>105</sup>Rh, <sup>111</sup>Ag, and <sup>192</sup>Ir; and,
  - (b) a parenterally acceptable carrier.